

Table 1

Fatty acid	Mol % of total fatty acids
14:0	11.50
16:0	17.95
16:1 $\Delta$ 9	19.81
16:1 $\Delta$ 11	0.19
16:2 $\Delta$ 9,12	2.47
16:3 $\Delta$ 6,9,12	6.68
18:0	0.47
18:1 $\Delta$ 7	0.26
18:1 $\Delta$ 9	1.50
18:1 $\Delta$ 11	1.52
18:2 $\Delta$ 9,12	2.37
18:3 $\Delta$ 6,9,12	0.98
18:3 $\Delta$ 9,12,15	0.32
18:4 $\Delta$ 6,9,12,15	5.72
20:0	0.44
20:3 $\Delta$ 8,11,14	0.26
20:4 $\Delta$ 5,8,11,14	2.46
20:5 $\Delta$ 5,8,11,14,17	17.51
22:6 $\Delta$ 4,7,10,13,16,19	6.64
24:0	0.49

Table 2

Fatty acid	Mol % of total fatty acid methyl esters							
	- substrate		+ 14:0		+16:0		+ 18:0	
	pYES2	pYDESN	pYES2	pYDESN	pYES2	pYDESN	pYES2	pYDE
								SN
14:0	0.78	0.52	1.12	0.96	0.76	0.58	0.76	0.70
14:1 $\Delta$ 9	0.22	0.13	1.20	1.29	0.23	0.14	0.23	0.20
16:0	18.40	15.04	18.37	14.62	23.85	22.09	17.22	15.09
16:1 $\Delta$ 9	39.73	35.55	43.39	36.24	42.24	37.03	36.24	31.67
16:1 $\Delta$ 1	0.23	3.27	2.36	5.84	0.22	5.57	0.25	5.84
1								
18:0	7.37	7.34	6.61	7.23	6.36	6.60	16.72	17.47
18:1 $\Delta$ 9	30.19	34.32	24.44	30.24	23.89	25.19	26.07	26.58
18:1 $\Delta$ 1	1.20	1.21	1.35	1.30	1.19	1.12	1.08	0.96
1								
26:0	1.89	2.63	1.16	2.29	1.26	1.70	1.43	1.50

TABLE 3	substrate	product	% conversion	
			<i>Thalassiosira pseudonana</i>	<i>Phaeodactylum tricornutum</i>
	16:1 $\Delta$ 9	16:2 $\Delta$ 6,9	14	6
	18:1 $\Delta$ 9	18:2 $\Delta$ 6,9	18	5
	18:2 $\Delta$ 9,12	18:3 $\Delta$ 6,9,12	54	28
	18:3 $\Delta$ 9,12,15	18:4 $\Delta$ 6,9,12,15	68	27

16:1 $\Delta$ 9 = 16:1n-7    16:2 $\Delta$ 6,9 = 16:2n-7    18:1 $\Delta$ 9 = 18:1n-9    18:2 $\Delta$ 6,9 = 18:2n-9

18:2 $\Delta$ 9,12 = 18:2n-6    18:3 $\Delta$ 6,9,12 = 18:3n-6    18:3 $\Delta$ 9,12,15 = 18:3n-3    18:4 $\Delta$ 6,9,12,15 = 18:4n-3

Figure 1A

--ZfdeL	--ERKVNVSQWVKGHGGILRLCHY	--AGEDATEAFAPHPN	--VAVILATAQOAGML-QHDFGHLN	--FKTSGMNLVHKFVIGHLKASAGWNNHRRH	--CHHAIPNIFKK	--NDWFSGLNFQIEHLLFTVPRHNYWRAAPRVALCKKHGVY
--HsdeL6	--DRKVNITKASIQHPGQGVIGHY	--AGEDATDAFAHPD	--TAFVILATSAQOAGML-QHDFGHLN	--YRKPKNHLVHKFVIGHLKASAGWNNHRRH	--CHHAIPNIFKK	--NDWFSGLNFQIEHLLFTVPRHNYWRAAPRVALCKKHGVY
--HsdeL5	--DRKVNITSEFTTRHPGQGVIGHY	--AGEDATDAFAHPD	--TAFVILATSAQOAGML-QHDFGHLN	--YRKPKNHLVHKFVIGHLKASAGWNNHRRH	--CHHAIPNIFKK	--NDWFSGLNFQIEHLLFTVPRHNYWRAAPRVALCKKHGVY
--TFAD5	--EGVLVDATNFK--HPGGSITNPLTEGAGVDATQAYREFHOR		--GVVWNGIAQRCQGVY-MEEMHGCS	--TGVITLDDRMCEFFGVGCGMCHYKNQHSKHAAPRLSH		--VTWMSNLNFQIEHLLFTVAPQRFKEISPRVEALFKRNLEPY
--CedeL6	--GKWLISEELVKKHPCGAVISQY	--RNSDATHIFAPHEG	--SACLLALAQOQGMV--THEFCHQP	--TKNRPNDTISLFFGNFIQCFSEDWWDKRTTHAAITNVIDH		--IDMLGGGLNFQIEHLLFTVPRCNLANACVKYVKEWCKENMLPY
--CedeL5	--GKWCQIDDAVLRSEPCGSAITTY	--KNNDATTVPHTFTG	--SAILNGVAVQOIGMI--THEFAHQ	--FKNRYNDLASVFNGLQFSGGCKEQRVHHAATNVVGR		--IDMLGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--EgdeL8	--LQIMBQTYDVVNHPGSAELIENY	--QGRDADAEVUMH	--GAVILGWHYQOQGMV--SHDICHQ	--FKNRYNDLASVFNGLQFSGGCKEQRVHHAATNVVGR		--IDMLGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--PdeL6	--SNKVXDVSNMH--HPGGAIVFTH	--AGDMDTIFAAPAP	--SAYMLGTFQQSGMV--ADFLHQQ	--FTTKKIGDLGLFNGNLMOQISYQWKNKIKH	--CHHAIPNIFKK	--VDFPFGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--BoDeL6	--QKAYVDSDWYDHPGGSPLKSL	--AQOEVTDFAFAHP	--SCCLMGFLMIQSGMI--GHDAHYW	--YDSRLKFMGIFAAANCLSGISIGWKNHHAHLTNSLEY		--VDFPFGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--PdeS1	--GDAVYDAKAFDHPGGAHFUSLF	--GGEDATEAEYHRR	--LSVFLGIFVFAWIGLNIOH-DANHGA	--LSRHSVINYCLGYADWDWIGMVLQSHVYVHHLTNDVDA		--LGVNLGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TFAD4	--HGVXDVTYKFPASHPGCDILILA	--AGKATVLYTHYHVR	--RAMSLGVFAAFVGTCTIOH-DGHGA	--PAQRWNVKAGTILDMIGASGMTWFOHVA	--CHHPITNILEE	--WHPFSGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--PdeL5	--DGIITDLSQSD--HPGGETIRMF	--GCNDVTYQIKMIHPY	--LAVAYGISQAMTGMNVQDANHGA	--TSKRPWNVNMLGADFIQSGK--WLMQOQWTHAATYNAEM		--SCGTFGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--EgdeL4	--HGVVDVTDFLAKHPGQGVITLG	--LGRDCTILIRSYHPA	--WAAVWGFAGSHVGLSIOH-DGHGA	--PSRNTLVNRLAGWMDLIGASVTWYQOVI	--GHQOITNLVSD	--ANHLSSGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS1	--QNKVDVSNWY--DHPGGAUVFTH	--AGDMDTIFAAPAP	--SALLLGLFWOQCGMI--ADFLHQQ	--PKQKYGDLVGLFWGDLMOQFSQWKNKIKH	--CHHAIPNIFKK	--VDFPFGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS2	--DGVITDIDGFV--HPGGEVIRKF	--GCNDVTYQIKMIHPY	--TAVVFGISQAFITGLNVQDANHGA	--ASKRPPWVDLIGFDTGLIGSNK--WNNMAQHITHAATYHSEK		--SGCLTGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS3	--NGTIVDIADVF--HPGGEVIRKF	--GCNDVTYQIKMIHPY	--TAVVFGISQAFITGLNVQDANHGA	--ASKRPPWVDLIGFDTGLIGSNK--WNNMAQHITHAATYHSEK		--SGCLTGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS4	--AHVLVDITDFASHPGCDILILA	--SGKDSVLFETIHPR	--YSIGWGTFAAFITGCTIOH-DGHGA	--PAQNKLLAKLAWTILDMIGASAFITWELQHM	--GHHPITNILEE	--SRNLVGGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS5	--DGNWYNVEKFWHPGGEVLEQY	--LGDADISFVFWERN	--PQALLGLFWHSGFI--MEDAEHNL	--AGNERLNDILGWTIVGTIVGNGAVNRREHHAATNTYDD		--SENLMGGMQOIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS6	--WKAHPAGPHWIDMY	--DGRDATEVMDAFHQ	--STFLLGLSMTNAGML--GHDIYHG	--VDFKFSQWAPFAAAGLGTWWSKIKHHAISBDS		--SENLMGGMQOIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS7	--HGKIVDLSSTQ--HPGGPVALSLV	--QGRDGTALFBSHPT	--VVVTPILANLATVNY--WEDATHAL	--SSNWILNAAALPYLLPILLSPPS--WYVHVVV	--GHHAIPNIFKK	--CFIFSGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS8	--HSTWDLSTFB--HPGGPVALSLV	--QGRDGTALFBSHPT	--VVVTPILANLATVNY--WEDATHAL	--SSNWILNAAALPYLLPILLSPPS--WYVHVVV	--GHHAIPNIFKK	--CFIFSGGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS9	--KQVLDISKWISHPGGEQTLIRF	--AGMDATDELAHDD	--AAVLLGIFWQOFAFV--GHDCCHMSARTHARDHIDVPEKALVTFEFGISVAMWAKATIN	--VHAATYHSEK		--W-AERTAFVFAVAVPELHVVQSPVAFSWTILIPQEDPQGV
--TpdeS10						--LDFHGGGLQFOTLHCVPELGRGHLKTEPLIASLCKHSLPY
--TpdeS11						--VDFAGMGLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS12						--NDFMEGVNLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY
--TpdeS13						--NDFMEGVNLNFQIEHLLFTVPRHNTANTVNLKFAAANGLEY

histidine box3

histidine box2

histidine box1

cytochrome b5 haem-binding domain

FIGURE 1B

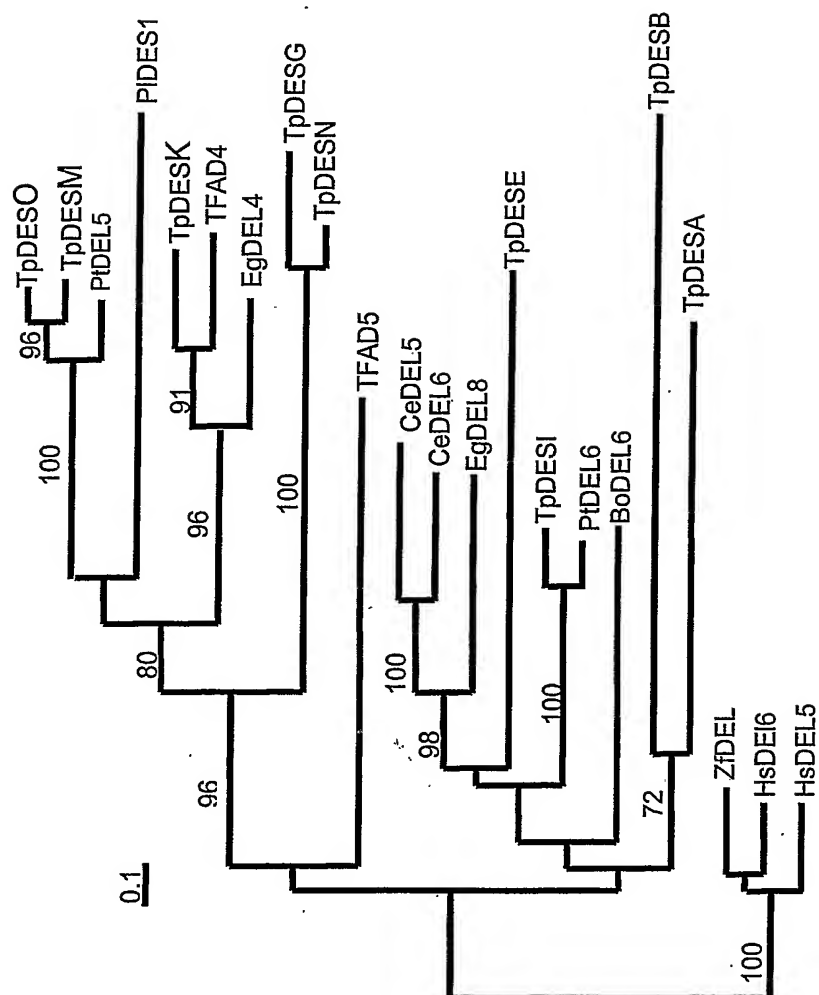
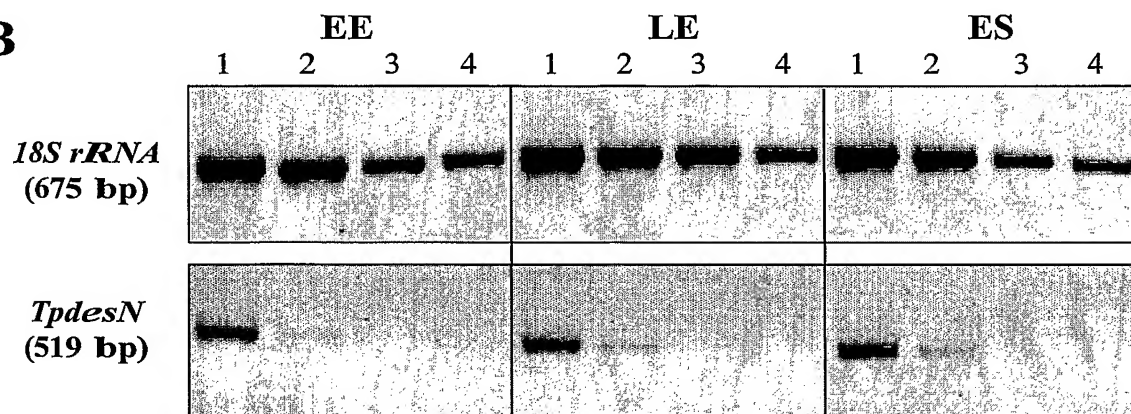


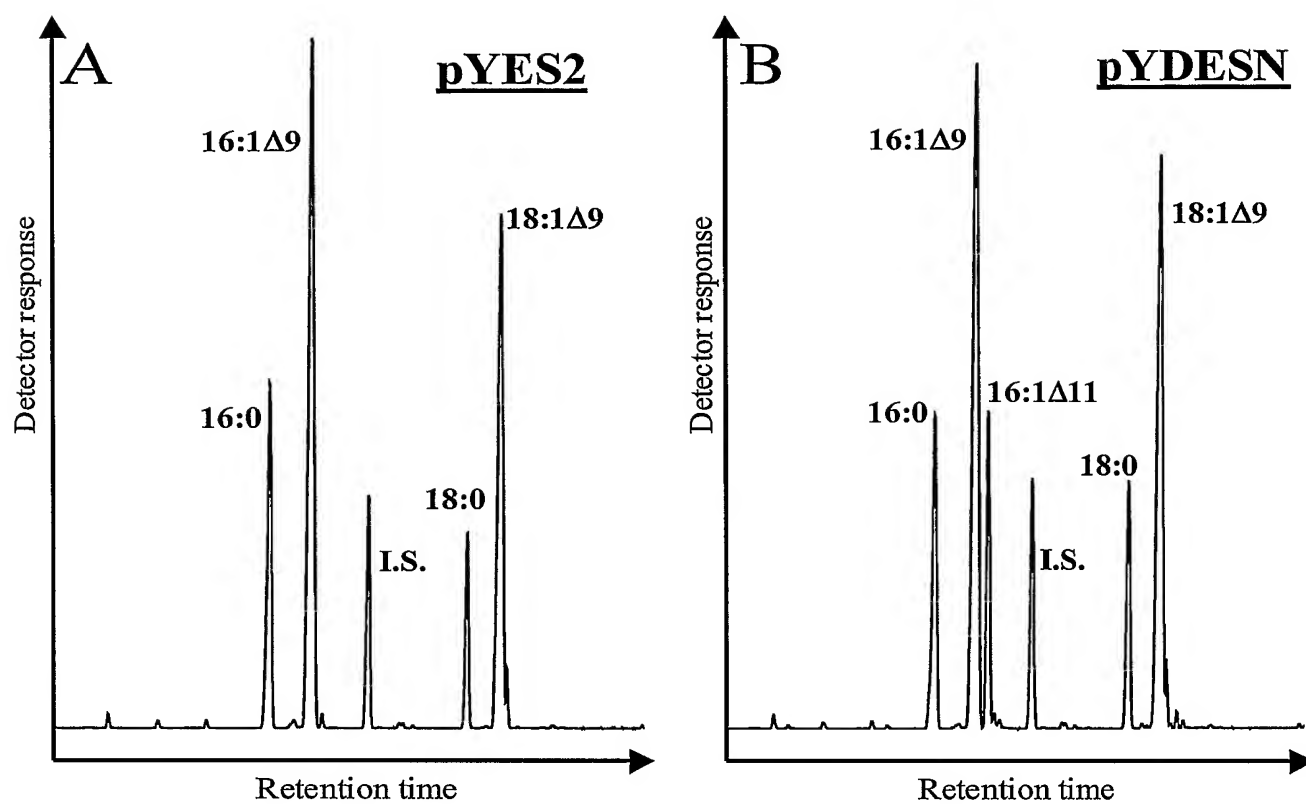
Figure 1C

MDFLSGDPFRTLVLAAALVVIGFAAAWQCFYPPSIVGKPRT 40  
LSNGKLNTRIHKLYDLSSFOHPGGPVALSLVQGRDGTAL 80  
FESHHPFIPRKNLLQILSKYEVPSTEDSVSFIATLDELNG 120  
ESPYDWKDIENDDFVSDLRALVIEHFSPLAKERGVSLVES 160  
SKATPQRWMVLLLLLASFFLSIPLYLSGSWTFVVVTPILA 200  
WLAVVNYWHDATHFALSSNWILNAALPYLLPLLSSPSMWY 240  
HHHVIGHHAYTNISKRPDLAHAPQLMREHKS IKWRPSHL 280  
NQTQLPRILFIWSIAVGIGLNLLNDVRALTKLSYNNVVRV 320  
EKMSSSRTLHLHFLGRMLHIFVTTLWPFLLFPVWKAIVWAT 360  
VPNAILSLCFMLNTQINHLINTCAHASDNNFYKHQVVT AQ 400  
NFGRSSAFCFIFSGGLNYQIEHHLLPTVNHCHLPALAPGV 440  
ERLCKKHGVTYNSVEGYREAI IAHFAHTKDMSTKPTD 477

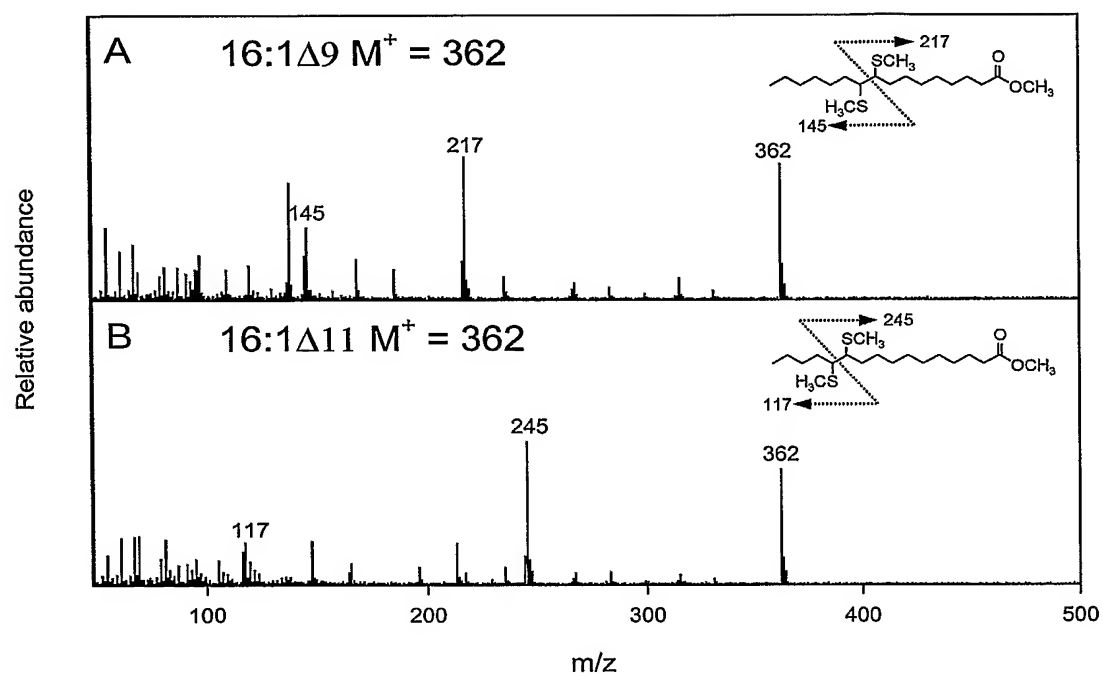
**Figure 2****A**

Growth phase	early exponential: <b>EE</b>	late exponential: <b>LE</b>	early stationary: <b>ES</b>
Incubation time	142 h	237 h	311 h
Nitrate degraded	20%	60%	100%

**B**

**Figure 3**



**Figure 4**

**FIGURE 5a**

CGGAGGGCGCACTGGAGAGGTTCCCGGAGGTTTGATGTAATTGGAGGTTGGGTCAAATAC  
AGATTCTGCCCTAACATTTTCCGGAAATTGGCTTCAGTTTGATTCAAGCGAGGAGGCGCT  
CGGCAGGAGGGCCCGTCACCTTTTGCATATTTGGGACTTCAATGGTTTCTACATTTTTT  
CCTTTCTGGAACCCAAACGCTGTCTTCAATTCTCCTTCCCATACTCACGGATGGATCCC  
CGAAAATGCCACCACCAATCACCTTGTCAATCNAAACCTCGTCATCCTTCACATTTTC  
TTAGCACCATTTGGCCGGTGTACCCTTCCCCGCGACTGCCAGTCTATGGGTCAGTATATCT  
CCCACATTTGGAGAGGTATTGCTAAAACTGTCAATCATACATATGATAACTGGAGAGTG  
CACACGAAGAGATCAATGCTTGAGCTAGGAGGGTGGCTATTGGCTGTGAGCGGCAGCTTT  
CACTTAAGATATTACGGCACGGCAAGTCTACTCGACAATACAACCGATGCTGCAGGTTTA  
TGCAATAGCTCAAGTTGTATCAACAACAAAACGTGCGAGAATGACGACAGTGCTTACGAA  
GATGATGCCATGAGAGCTGTTTGGGCATTGCTATGGGCGTTGCAGCTGGGAACGTTGGTC  
GGTTGTGCGTTAGTGTTAGGAGTGCATCATTTTCAGTGGAGATAACCTGACCAAAACAATCT  
GCGATACCAACAAAATCTTCAAAAGCAAAGCCAATATCTGATCAAAAAGCAGCTGTGACA  
TCCGGCAGTACCTGCGCTGTGAGAGAGAAGGCACGAAAAGACGGTCTAGTACTCCTCGAT  
GGCAACTGGTACAACGTTGAAAAGTTTCGTCCATCATCATCCTGGAGGTGTAGAAGTGTG  
GAGCAGTATCTCGGGGCAGATATCTCGTTTGTGTTTAGAGTGATGCATAGAAATCCAAC  
CAAATCATGAAATATCGCAAGCCGGTACGAGCTGCCACCCAGAGAAGAACTTGAGGCTCTC  
ACAAGCCGCCCTCAAGAGGTTTGTCTTGATATGATGGACGACTTTGTTACCAATTCCATT  
GATATCGCTTCTCCAGAAATGCTTCCCAAGCCAACGCAGTTTGACCTGAAGTCATTTGAG  
AAGGACTTCATTGACTTATATGAAGAGTTTGTGCTCAGGGATACTTCAAGCCCTCAACA  
ACATGGCTACTCTGGAACACAGCGGTACTGATTAGTATCATCGCGTTATCTGTCTCATCTCA  
ATGAAAGTGCTACCACCAACTTCGTTTGTCTTACCTGGAGCATTGCTTGGTCTCTTTTGG  
CACCAAAGTGGATTCCCTCATGACGATGCCGAGCACCATAATTTGGCTGGAAACGAACGG  
CTGAATGACATTTTGGGTTGGATCTATGGCACTGTCTTCTTGGGTGTCAATGGCGCTTGG  
TGGAGAGAGGAGCATAGAGAACATCATGCTTTCCTCAACACTTACGATGATGAAAGTGGT  
TTCAAAGATCCCAGGTGTGTGAGCGTCACTGTAGACGACTTCAAAGTTACTTGTTCCTC  
TCGTTGCTCACACATTTCGATTTTATTCATTCACTCACAGATGAGAGAGGACGCTGAGATA  
CAGAAACAAGAGTTGATTCCGTTCTTCGGTGACGAGATCATTCAATTTCTTAACAAACTTT  
CAGCACATTCTGTTCCCTCCGATCATCTTTATCGTTGGCCGCGTTGGTATTGTCTGATAGT  
TCTACACTGACTGAGAGGAAGTTCCGTCCTTGGAGTAAGTGTCAATTGGTATTCAATTGAG  
AAGAACTGCTGATTTGACTTTTCACTAACTAAGTGCATCGCCACTTCATCACGACGAT  
AGCAATACTTGGTAATGTTTGTATATCTTACTACTACGCAATCTTATCTCAGACGAG  
TCGTCTATCCCCGTGTACATCATCGGCTCTCTTTGGCAAGCTATTCTCTCTTTGCAATT  
GCTTGGGAATCACTACGTCAAGCCTTGGAAATAGACTCAACGATGCCACAGAGGGAACTT  
CTGCGTTTGGCAGATACTAAGCACTCAAGACTTTGCATGTCCACGTTGGTCTCGGTGGCT  
GTACGGAGGTCTCAACTTTCACTATTCCCATCATCTATTCCCAACGTTGTCTAGAGAGTA  
CTTTTACATTACATCACCACGCATTCCGGGTGAGTGCTCGTGTTTAGTGTTGCTACATTCA  
TATCAATGATACTCATAGCTCCATTTCTTTTCGACAGAGACTATGTGAGAAGCACGGGCTT  
CCGTTTATTGAGATTGCGTTTATTGATTGCGTTGTTGGAATGGTCAACAACTTTAACGAA  
GTGAGGAAAGACTTCGTACGAAAGGCCACGGGAGTGTGGCTTTTCATGTACACGTTGATCT  
TAAGTGTGAGACGATATAGAGGTTGATATTTACTGTTTTGTACACAGTAGTTTCGTCTAA  
TATGATGTAGCAACCGCAGCTTGTGGAATTAGTTTAGTGTAATGTAAGTGAAGAAAGTT  
ACGTCGATCTACTCTCTGCACATCTACATCGTGTGAAGCCATTCCGTTCAAGAAGTATCC  
TAATCCCTCGAACCACAGTCTCGTCTATACCCATCATTAATCAGCCGCTCTACCCG  
ATGTTGCTGTTGTTGCGGTGCTGTGAACCCCTCGCCGCCGATAATGGCGAAGGGCA  
GTCGGACACTTGATAATCTTCTTACAGAGTTTATGAGCTGGGTGTTTGTACCAATACCT  
CCTTTATATGGTACTAATGGACCCGTGTCCATTATGCTTGGCCGCGTTTCCACCGTTTG  
GACCGATAGGTGGCCAAAGGCCACACAGAAGAGCACCATAAAGGCGCAGCCTTGAGGAA  
ACTCAAGAAACCCCGATGGTCCACGTATTTAAAC

**Figure 5b**

ATGGCTAGAGCTGTTTGGGCATTGCTATGGGCGTTGCAGCTGGGAACGTTGGTCGGTTGT  
 GCGTTAGTGTTAGGAGTGCATCATTTTCAGTGGAGATAACCTGACCAAACAATCTGCGATA  
 CCAACAAAATCTTCAAAGCAAAGCCAATATCTGATCAAAAAGCAGCTGTGACATCCGGC  
 AGTACCTGCGCTGTGAGAGAGAAGGCACGAAAAGACGGTCTAGTACTCCTCGATGGCAAC  
 TGGTACAACGTTGAAAAGTTCGTCCATCATCATCCTGGAGGTGTAGAAGTGTGGAGCAG  
 TACCTCGGGGCAGATATCTCGTTTGTGTTTAGAGTGATGCATAGAAAATCCAACCTCAAATC  
 ATGAAATATCGCAAGCCGGTACGAGCTGCCACCCAGAAAGAACTTGAGGCTCTCACAAGC  
 CGCCGTCAAGAGGTTTGTCTTGATATGATGGACGACTTTGTTACCAATTCCATTGATATC  
 GCTTCTCCAGAAATGCTTCCCAAGCCAACGCAGTTTGACCTGAAGTCATTTGAGAAGGAC  
 TTCATTGACTTATATGAAGAGTTTGTGCTCAGGGATACTTCAAGCCCTCAACAACATGG  
 CTACTCTGGAACACAGCGGTACTGATTAGTATCATCGCGTTATCTGTCACTCAATGAAA  
 GTGCTACCACCAACTTCGTTTGTCTTACCTGGAGCATTGCTTGGTCTCTTTTGGCACCAA  
 AGTGGATTCTCATGCACGATGCCGAGCACCATAATTTGGCTGGAAACGAACGGCTGAAT  
 GACATTTTGGGTGGATCTATGGCACTGTCTTCTTGGGTGTCAATGGCGCTTGGTGGAGA  
 GAGGAGCATAGAGAACATCATGCTTTCCTCAACACTTACGATGATGAAAGTGGTTTCAA  
 GATCCCCAGATGAGAGAGGACGTCTGGATACAGAACAAGAAGTTGATTCCGTTCTTCGGT  
 GACGAGATCATTCATTTCTTAACAAACTTTTACGACATTCGTTCCTTCCGATCATCTTT  
 ATCGTTGGCCGCGTTGGTATTGTCTGTAGATTCTTACACTGACTGAGAGGAAGTTCCGTCCT  
 TGGACAATACTTGGTAATGTTTGTTCATATCCTACTACACTACGCAATCTTATCTCAGACG  
 AGTCGTCTATCCCCGTGTACATCATCGGCTCTCTTTGGCAAGCTATTCTCTCTTTGCAA  
 TTGCTTGGGAATCACTACGTCAAGCCTTGGGAATAGACTCAACGATGCCACAGAGGGAAC  
 TTCTGCGTTTGGCAGATACTAAGCACTCAAGACTTTGCATGTCCACGTTGGTCTCGGTGG  
 CTGTACGGAGGTCTCAACTTTCACATATCCCATCATCTGTTCCCAACGTTGTCTAGAGAG  
 TACTTTTACATTACATCACCACGCATTTCGGAGACTATGTGAGAAGCACGGGCTTCCGTTT  
 ATTGAGATTGCGTTTATTGATTGCGTTGTTGGAATGGTCAACAACTTTAACGAAGTGAGG  
 AAAGACTTCGCTACGAAAGGCCACGGGAGTGTGGCTTTCATGTACACGTGA

**Figure 5c**

MARAVWALLW	ALQLGTLVGC	ALVLGVHHFS	GDNLTKQSAI	PTKSSKAKPI	SDQKAAVTSG
STCAVREKAR	KDGLVLLDGN	WYNVEKFVHH	HPGGVEVLEQ	YLGADISFVF	RVMHRNPTQI
MKYRKPVRAA	TPEELEALTS	RRQEVCLDMM	DDFVTNSIDI	ASPEMLPKPT	QFDLKSFEKD
FIDLYEEFVA	QGYFKPSTTW	LLWNTAVLIS	IIALSVISMK	VLPPTSFVLP	GALLGLFWHQ
SGFLMHDAEH	HNLAGNERLN	DILGWIYGTV	FLGVNGAWWR	EEHREHHAFL	NTYDDESGFK
DPQMREDVWI	QNKKLIPFFG	DEIIHFLTNE	QHILFLPIIF	IVGRVGIVVD	STLTERKFRP
WTILGNVCHI	LLHYAILSQT	SRPIPVYIIG	SLWQAILSLQ	LLGNHYVKPW	NRLNDATEGN
FCVWQILSTQ	DFACPRWSRW	LYGGLNFHYS	HHLFPTLSRE	YFHITSPRIR	RLCEKHGLPF
IEIAFIDCVV	GMVNNFNEVR	KDFATKGHGS	VAFMYT		

**Figure 6a**

NANCCATATGCGGGAATACGGCCAGGGTATACCCACAGCGCCTCCGTTGC  
 AGCAAACCTCTATCCAATACCTCCCCATGAACCCCCCTTCGGCCACCCT  
 ATATGCGGAGACTCGTTTCGTCTGGACCTGCAGATGATGACTGGTGAGGCCA  
 AATTAGTTGCGGAATGCGTGCGATGGAGGCCCTTATTCTTTTGCAATCAGG  
 GCGTTCGTCAAGAGGAGATCCATGTTGTTGTGTGATTTCGACTTGCTTGGG  
 GCGTGATGATGTGTGCGTGCGTGACGATGTTGATAGGTAGAAAGAGAT  
 CGAGGCGGTGATTCAACTATTTCAGGATACTGAAAGAGTTGATATAGCAGC  
 AGTAATATATCCTAGTTGTTTGTGTTTGTGTTGTTGGTGTATCAAGTATTC  
 AATGACGCAACAATAACGTTGGTAGTGTATGGGTGAACAGGTGTTTCGGGA  
 CAAAGGCTTTTCATAAAATCTATTTAACGTGTTTCGTTAAAACGACGAAAA  
 GAAGCCACTCTGCACCATTCCAGCGCAGACAAGACCAGCAGGCACAGAAC  
 AGCACGACACACCGACCCGAGCCGAAAAAGCCAACAACAACGACACCGAC  
 CCGAGCCGATACAGCCGACAGGCAAAAGGCTCTCTGCTACAATCTACAAAA  
 CGGCAACATCAAATCATGCCACCCTCCATCAAAGACACACTCGACGAGCC  
 CTTTCGTCTCGCCCGCATCCACCAAGTCGCCCACCACCAAAACCCCTCCTCC  
 CCGCGCGCAAACCCCTCAAACGATACTCCCCCTCCCAAATCTCCCAACAC  
 AACACTCCCACCGATGCATGGCTCATTTACAAATCCCAAGTCCTTGACAT  
 TTCCAAATGGATATCGCACCATCCAGGTGGAGAGCAGACGCTGTTGAGGT  
 TTGCCGGTATGGATGCTACCGATGAATTGAGGGCATTTCATGATGATTGG  
 GTTTTGGAGGAGAAGTTGCCTCATTTTGTGATTGGGGAGGTGGATTGGAC  
 TACTACCGGCGGGGCGAGAGAATACTGTACGAAGGATGGACAGGTTTCGG  
 AGCTTATCAAGGATTTTCAGAGAGTTGGGTGAACACTTCGACAGGTTGGGG  
 TACTTTACGTCAGTCCATGGTATTACGTCCGTAAGGTGGCTACCGTCTT  
 CGCCATCTTTGGATGTGCACTCGGACTCCTCTTCAATACCGATTCCATCC  
 CAGCACACATGCTCGCGGCGGTACTCCTCGGTATATTCTGGCAACAATTT  
 GCATTTCGTCGGACATGACTGTGGTCACATGTCGGCGCGGACTCATGCCCG  
 TGATCATATCGATGTACCTAAGCTGGGAGCACTGGTGACCTTCTTCAATG  
 GGATTTCCGTAGCGTGGTGGAAGGCTACGCACAATGTTTCATCATGCTGTG  
 CCAAATAGTGTTGATTGTGACCCGACATTGCTCATTTGCCGGTGTTCG  
 GTTGCATGAGCACATGTTTACGTCGTTGTTTAAACAAGTATCATGGGAGGG  
 TGATGGAGTTTGATTGGCTGGCGCGTAATGTCTTTGTGCCATTTCAACAC  
 TTTTGGTACTATCCCATAATGGCGGTGGCGAGGTTCAATCTGTACATTCA  
 ATCAGCATTTGTTTTTGGCGTCGAAGAACGATGGGCATGCAGGAAGAAGGG  
 GATCCTCTAGATTGGATTTGCTGGCGTTCAATCGTGTTCTTCTGTTGGTT  
 AGCGGTGCTGGTGTATGCATCCCGAGCTGGGCGGAGCGTATCGCATTCG  
 TCTTCGTCAGACATGCTGTACCTGGGTTACTGCATGTGCAATCACCTGTC  
 GCCTTCTCTTGACAATCTTGATCCACAAGAGGACCCGGTTGGGGTGCT  
 CTTTCCGAAGCCCGGTTCTGGGCTTTTGCCACATTGGCGTCCCGGTCCA

**Figure 6b**

MPPSIKDTLD	EPFVSPASTK	SPTTKPLLPR	RKPLKRYSPS	QISQHNTPD	AWLIYKSQVL
DISKWISHHP	GGEQTLRLFA	GMDATDELRA	FHDDWVLEEK	LPHFVIGEDV	WTTTGGAENT
VTKDQGVSEL	IKDFRELGEH	FDRLGYFHVS	PWYYVRKVAT	VFAIFGCALG	LLFNTDSIPA
HMLAAVLLGI	FWQQFAFVGH	DCGHMSARTH	ARDHIDVPKL	GALVTFFNGI	SVAWWKATHN
VHHAVPNSVD	CDPDIAHLPV	FALHEHMFST	LFNKYHGRVM	EFDWLARNVF	VPFQHFVWYYP
IMAVARFNLY	IQSALFLASK	NDGHAGRRGS	SRLDLLAFNR	VLLLVSAGAV	MHPGLGGAYR
IRLRQTCCTW	VTACAITCRL	LLDNLDPTRG	PGWGALSEAR	FWAFATLASR	V

Figure 6c

ATGGCTCCACCCTCCATCAAAGACACACTCGACGAGCCCTTCGTCTCGCCCGCATCCACC  
 AAGTCGCCCCACCACCAAACCCCTCCTCCCCCGCCGCAAACCCCTCAAACGATAC'TCCCCC  
 TCCCAAATCTCCCAACACAACACTCCCACCGATGCATGGCTCATTTACAAATCCCAAGTC  
 CTTGACATTTCCAAATGGATATCGCACCATCCAGGTGGAGAGCAGACGCTGTTGAGGTTT  
 GCCGGTATGGATGCTACCGATGAATTGAGGGCATTTCATGATGATTGGGTTTGGAGGAG  
 AAGTTGCCTCATTTTGTGATTGGGGAGGTGGATTGGACTACTACCGCGGGGCAGAGAAT  
 ACTGTCACGAAGGATGGACAGGTTTCGGAGCTTATCAAGGATTTCAAGAGAGTTGGGTGAA  
 CACTTCGACAGGTTGGGGTACTTTACGTCAGTCCATGGTATTACGTCCGTAAGGTGGCT  
 ACCGTCCTTCGCCATCTTTGGATGTGCACTCGGACTCCTCTTCAATACCGATTCCATCCCA  
 GCACACATGCTCGCGGCGGTACTCCTCGGTATATTCTGGCAACAATTTGCATTCGTTCGGA  
 CATGACTGTGGTCACATGTTCGGCGCGGACTCATGCCCCGTGATCATATCGATGTACCTAAG  
 CTGGGAGCACTGGTGACCTTCTTCAATGGGATTTCCGGTAGCGTGGTGGAAGGCTACGCAC  
 AATGTTTCATCATGCTGTGCCAAATAGTGTGATTGTGACCCGGACATTGCTCATTTG  
 CCGGTGTTTGC GTTGCATGAGCACATGTTTACGTCGTTGTTTAAACAAGTATCATGGGAGG  
 GTGATGGAGTTTGATTGGCTGGCGCGTAATGTCTTTGTGCCATTTCAACACTTTTGGTAC  
 TATCCCATAAATGGCGGTGGCGAGGTTCAATCTGTACATTCAATCAGCATTTGTTTTTGGCG  
 TCGAAGAACGATGGGCATGCAGGAAGAACAACATTGGATTTGATGGCGTTCATCGGCTTC  
 TTCTCTTGGTTAGCGGTGCTGGTGTTCATGCATCCCGAGCTGGCCGGAGCGTATCGCATTC  
 GTCTTCGTGAGCCATGCTGTAGCTGGGTTACTGAATGTGCAAATCACACTGTTCGCACTTC  
 TCTCGGCAATCTTTGATACCAACAAAGAGGGACCCAGGTTTGGAGGTGACTTTTACTCT  
 CGTAACGTCCTTGCTTCGTTGGACGTCGCTTGTCTACATACTTGGACTGGTTCACGGA  
 GGTCTCCAATTCCAAACACTCCATCATTTGCTACCCCTAGACTTGGACGTCAGCACTTGAGA  
 AAGACCGAACCTCTCATTTGCATCGTTGTGCAAGAAGCATTCTTTACCATAACACGAGCAAG  
 AGCTTCGTAGAGTGCAATATGGAAGTTT'TAATACATTGAAGGATGCCGCGCTTCTGCC  
 AAGAAGTGGTCACCGTTAATTTATGAGTCAATGTGTGCTCAGGGATAG

Figure 6d

MAPPSIKDTL	DEPFVSPAST	KSPTTKPLLP	RRKPLKRYSP	SQISQHNTP	DAWLIYKSQV
LDISKWISHH	PGGEQTLRF	AGMDATDEL	AFHDDWVLEE	KLPHFVIGEV	DWTTTGAEN
TVTKDGQVSE	LIKDFRELGE	HFDRLGYFHV	SPWYYVRKVA	TVFAIFGCAL	GLLENTDSIP
AHMLAAVLLG	IFWQQFAFVG	HDCGHMSART	HARDHIDVPK	LGALVTFNG	ISVAWWKATH
NVHHAVPNSV	DCDPDIAHLP	VFALHEHMFT	SLFNKYHGRV	MEFDWLARNV	FVPFQHFVYY
PIMAVARFNL	YIQSALFLAS	KNDGHAGRTT	LDLMAFIGFF	SWLAVLVSCI	PSWPERIAFV
FVSHAVAGLL	NVQITLSHFS	RPIFDTNKEG	PRFGGDFYSR	NVLASLDVAC	PTYLDWFHGG
LQFQTLHHCY	PRLGRQHLRK	TEPLIASLCK	KHSLPYTSKS	FVECNMEVFN	TLKDAARSAK
KWSPLIYESM	CAQG				

**Figure 7a**

CANCTAACCGGGAAGAGGGCCTTATTTGCCACCACAGTGATAACCTTCGG  
 CTGTGACCACGGGAGCAGCCGTGGCGAGCCCGCGTCTGACCAGCCCTGTC  
 TTTTTGGAGCATCCCTCACCACACATCGCATCTCGTTGCACGGGGATCAG  
 TGCACAGTCTTCGTCTCATTGTTAGATGTACACGGAAGAAGCACATCCA  
 GCCCGACTCTTCATAACATCTCAGGACCCTGCAAACACGCATCACATCAT  
 GATGTTCCACCGAGTCGTATCGGCATCGCCCTCACAATGGGCTGTGTCT  
 CCAGTTTCTCCTCGCCCGGTCAATTCAATATTGGCACGTCCTATGCAATCA  
 TCCACCACTTCTCGTTTTCTCGACAATGATTGAAAAGTCAGAGATTTCTGA  
 CAGTGTCACAACGAAAACAAGGAGATGACATCATCTTCTGAAATGCCCTA  
 CTGCGTGGGAATGCAATGAGGAAGCTGAGTGCGTGGAAGTTCTGCTTGT  
 GATGACGAGGAATGCCGTACTACTTTGGATGTGAGGATTCATGGCAAATG  
 GTACGATCTTTCAGGTGAGTGCAAGTTGTGGTATGCATTTGTTATAAGTTC  
 TATTCTGTATCGGCACACACGATATTGTGTTGTGATCAATGTTCTAACAG  
 CCATTTGTTCCCTCCTACTTCTCAGGATGGCGCAAAGCTCACCCCTGCAGG  
 ACCCCACTGGATCGACTGGTACGACGGTCGTGACGCCACCGAAGTCATGG  
 ACGCATTTTCACACCCAAAAGGACGTGAAATGTACAAGCGTCTTCCCGCG  
 TCTGCCCCCGAAACGGCTGCCGTTCTTGAAGCATCTGCAGCACCTTACTC  
 GCAGACGGAGCTTAACTTTAGGAAGTTGAGGGATCAATTGGAAAGTGAGG  
 GGTGGTGGGAGAGGGACTTTGTCCATGAGGGAAAGTTGCTGGCGATTG  
 GCATCGTTGGTTACAGGAGCAGCATTGACTGCGGAGAGTGCTCCTCCTCT  
 TTCAACTTTCTGTTGGGATTGTCTATGACGAATGCTGGATGGTTGGGGC  
 ATGATTATATTCATGGTGTGATAAGTTCAGTCAAGTTATGAGGCCTTTT  
 GTGCCGTGGCTGCTGGTTTGGGACCAACTGGGTGGAGTGATAAGCACAA  
 CAAGCATCACGCTTTGAGTGAGTCTGACTCTTGTGTTACTGCAAGTGTG  
 GTTTAAAGATTGAATCAATACCATCGTACTCATATCCTCAACATTCTTTC  
 AATCGCAACAGCCAACGAAATGGGAGTTGATGAAGACATTGCGACCGATC  
 CATTTCTCTTTCCTTATGTCCCGATCCAAAGTACGATTCTCCACTTCGT  
 AAGATCCAACACTACATCTTCTACAGTCCCTTCTCCTTCTTTCCTTTCCTT  
 CTGGCGCGTGACACCCCTTAAGGTGCGCGTAGACTCAGTTGAATCGAAAC  
 GTCCCGATGCAAAGAATGAATTGTGGTATCTCTTGGCACATTACTTCGTC  
 TTGTTGACCTTCTTCCAGCTCAGGTGTGGGTGCGCTGCTGTCTTCTCTC  
 TGGCCTCATGTCTGCACTCATTGTTACTCCGACACATCAGTCGGAAGAGT  
 ATTTTGAGGAGTATCAGCCTGATTGGGTGACGGCTCAGTTTGAGAGCACG  
 AGAAATGCTGTACGACTAATCCATTCTCTGAGTGGCTTTGGGGAGGAAT  
 GCAATACCAGTTGGAGCATCACTTGTTCCTTCCATGCCAGGTAAGCAG  
 CTTAATGTTTTGTATCTTGTACCATTGTTGACTTCTCGTTCTCGGCTAACN  
 CTGTTGGAAGCGTATGAGCCTAGCACATAATGGTGTGTATGCGACCATGA  
 ACTCGATTTAAGGTTCAAATACCTTACTATCATCTCAGTCCGGTGCCGGA  
 TGACGTGTGTCCC

**Figure 7b**

QPFVPPPTSSG WRKAHPAGPH WIDWYDGRDA TEVMDAFHTQ KGREMYKRLP ASAPETA AVL  
 EASAAPYSQT ELNFRKLRDQ LESEGWWERD FVHEGKLLAI WASLVTGAAL TAESAPPLST  
 FLLGLSMTNA GWLGHDIYIHG VDKFSQVMRP FAAVAAGLGP TWWSDKHNKH HALSESDSCC  
 YCKCGLKIES IPSYSYPQHS FNRNSQRNGS

RLNQYHRTHI LNILSIATAN EMGVDEDIAT DPFLFPYVPD PKYDSPLRKI QHYIFYSPFS  
 FLFALWRVDT LKVAVDVSVES KRPDAKNELW YLLAHYFVLL TFFPAQVWVP AVFLSGLMSA  
 LIVTPTHQSE EYFEEYQPDW VTAQFESTRN AVTTNPFSEW LWGGMQYQLE HHLFSPMPR

**Figure 8a**

AAAAAAAAAAAAANNNNGGGAAGCGAGATCAATCGAGCTGGTACCATGAG  
TTTCAAAAGTCAACTTCAACATTCAAGTTGTACAAAAGAGAGGGCCTCAG  
ACGTGGTGAGCAAAAGCACTTTCACAGGGGAATAGTAGGGGAAAAACAGAA  
ATATTTGGCAAATTTATCTTAGTTCCTGATTATATCTTCAATTACTAAAG  
GGAAAACAATGCAGCTCAAAAGCTACGTTTGTGTACTTCTTTGAAACCAC  
CTCACCCCCGCGGCTTCGCGTCCGGGTCGGCCCGCTTGCATCCTTTCTTC  
CTCTCACAAATTTATCATCCAACGAGCTGATAACGTGTCAATTCACAGGGT  
CAACACAATAAAACATACTAATCAACCATGGGAAAAGGAGGAGACGCAGC  
CGCAGCCACCAAGCGTAGTGGAGCATTGAAATTGGCGGAGAAGCCGCAGA  
AGTACACCTGGCAGGAGGTGAAGAAGCACGTGAGTCTCCGCTTGTGTTGC  
TGCCGTTGGATGTCTTGTGCTTGGTTCGGATTATGCAACGAGAGTTTCGT  
ATTGCAACTCAATTTCAATTGTCCATCTGCAATCAACTCATCTGACCCAA  
CAACTTCTGCCACCGTCCACCCATTGAGATCACCCCGACGATGCCTGGG  
TAGTCCACCAAAAACAAGTCTACGACGTCTCCAACCTGGTACGACCACCC  
GGTGGAGCCGTGGTGTTCACCCACGCCGAGACGACATGACGGACATCTT  
CGCCGCTTCCACGCCCAAGGCTCTCAGGCCATGATGAAGAAGTTTTACA  
TTGGAGATTTGATTCCGGAGAGTGTGGAGCATAAGGATCAAAGACAGTTG  
GATTTTCGAGAAGGGATATCGTGATTACGGGCCAAGCTTGTATGATGGG  
GATGTTCAAGTCGAGTAAGATGTATTATGCATACAAGTGCTCGTTCAATA  
TGTGCATGTGGTGGTGGCGGTGGCCATGGTGTACTACTCGGACAGTTTG  
GCAATGCACATTGGATCGGCTCTCTTGTGGGATTGTTCTGGCAGCAGTG  
TGGATGGCTTGGCAGCAGCTTTCTTACCACCAAGTCTTTAAGCAACGAA  
AGTACGGAGATCTCGTTGGCATCTTTTGGGGAGATCTCATGCAGGGGTTT  
TCGATGCAGTGGTGAAGAACAAGCACAAATGGCCACCATGCTGTTCCCAA  
CTTGACAACTCTTCTTGGACAGTCAGGATGGTGTATCCCGATATTGATA  
CCATGCCACTCCTTGCTTGGAGTCTCAAGCAGGCTCAGAGTTTCAGAGAG  
ATCAATAAGGGAAAGGACAGTACCTTCGTCAAGTACGCTATCAAATTCCA  
GGCATTACATACTTCCCCATCTCTCTTGGCTCGCATCTCTTGGTTGA  
ATGAATCCTTCAAACTGCATTTCGGACTCGGAGCTGCCTCGGAGAATGCC  
AAGTTGGAGTTGGAGAAGCGTGGACTTCAGTACCCACTTTTGGAGAAGCT  
TGGAATCACCTTCAATTACACTTGGATGTTTCGTCTCTCTTCCGGATTG  
GAAGGTGGTCTCTTCCATATTCCATCATGTATTTCTTCACTGCCACATGC  
TCCTCGGGACTTTTCTCTCGCATTGGTCTTTGGATTGGGACACAACGGTAT  
GTCAGTGATGATGCCACCAACCCGACCTGACTTCTGGCAACTCCAAGTCA  
CCACTACACGTAACATCATTGGTGGACACGGCATTCCCAATTCTTTGTG  
GATTGGTTCTGCGGTGGATTGCAATACCAAGTGGATCACCACCTCTTCCC  
CATGATGCCTAGAAACAATATCGCGAAATGCCACAAGCTTGTGGAGTCAT  
TCTGTAAGGAGTGGGGTGTGAAGTACCATGAGGCCGATATGTGGGATGGT  
ACCGTGGAAGTGTGCAACATCTCTCAAGGTGTCGGATGATTTCCTTGT  
GGAGATGGTGAAGGATTTCCCTGCCATGTAAACACCTATTACCAGTCGGC  
AGCTTTGTGCGTTGCTGGAGATGAATGATGCGAACTCATCGTAAATACTC  
ATTATTAATGAACAATGTTACCCTGCAGTCGTGAGGTTTGCCTTCGTTGT  
CCCACCCCTTCTATTGTGTATTGGTGATCATTGAAACGAGATAGTCTATT  
TCTACATCAGATCTCTCCATTACCCCTCGAATAGTATCCAACAACCATC  
ACATCAAACTACTTGAATCTCCTCTGTGGCAATCCCTCCCATTGTACATT  
TACTCTCAAAGGTATATCTATTTGTCCCTTTATTAATTGTTGAATATTGA  
AGGGGAAGATTCCATTTTCCCCTCTCTCTTCCCCGATGATCCTCTCACCT  
CTAAATACCTTTTCAACAACAACAACGAAACAACGCAGATCAGACAAACA  
ACATGGCAGAACTATCTCACCGTGCAAACGATCCAAAGGCCAAGAGCTA  
TTCTAGTCCATCTCCAACGCATGTCTGGCTCCAGACCCCTCATCCTGAAG  
AGTGAGTTGTGATGTGCTGATGTACTTTCCGTCTTGATGTTCTCTGAGG  
TGTCACAACTCAGGGTCACCAAGCAGCTTCGCTGATCGCTAGTGGCGAG  
AAGATCCGATTTCCCATCCCGAAGAAAGCCTCTGGGAAAAATGTCATT  
CTTGAAAGTCGAGGGTGACGAATAATTGGGGGCGGANGN

Figure 8b

ATGGCTGGAAAAGGAGGAGACGCAGCCGCAGCTACCAAGCGTAGTGGAGCATTGAAATTG  
 GCGGAGAAGCCGCAGAAGTACACTTGGCAGGAGGTGAAGAAGCACATCACCCCGACGAT  
 GCCTGGGTAGTCCACCAAAACAAAGTCTACGACGTCTCCAAGTGGTACGACACCCCGGT  
 GGAGCCGTGGTGTTCACCCACGCCGGAGACGACATGACGGACATCTTCGCCGCCCTTCCAC  
 GCCCAAGGCTCTCAGGCCATGATGAAGAAGTTTTACATTGGAGATTTGATTCCGGAGAGT  
 GTGGAGCATAAGGATCAAAGACAGTTGGATTTTCGAGAAGGGATATCGTGATTTACGGGCC  
 AAGCTTGTTCATGATGGGGATGTTCAAGTCGAGTAAGATGTATTTATGCATACAAGTGCTCG  
 TTCAATATGTGCATGTGGTTGGTGGCGGTGGCCATGGTGTACTACTCGGACAGTTTGGCA  
 ATGCACATTGGATCGGCTCTCTTGTGGGATTGTTCTGGCAGCAGTGTGGATGGCTTGCG  
 CACGACTTTCTTACCACCAAGTCTTTAAGCAACGAAAGTACGGAGATCTCGTTGGCATC  
 TTTTGGGGAGATCTCATGCAGGGGTTCTCGATGCAGTGGTGAAGAACAAGCACAAATGGC  
 CACCATGCTGTTCCCAACTTGCACTCTTCTTGGACAGTCAGGATGGTGATCCCGAT  
 ATTGATACCATGCCACTCCTTGCTTGGAGTCTCAAGCAGGCTCAGAGTTTCAGAGAGATC  
 AATAAGGGAAAGGACAGTACCTTCGTCAAGTACGCTATCAAATTCAGGCATTACATAC  
 TTCCCCATCCTCCTCTTGGCTCGCATCTCTTGGTTGAATGAATCCTTCAAACTGCATT  
 GGACTCGGAGCTGCCTCGGAGAATGCCAAGTTGGAGTTGGAGAAGCGTGGACTTCAGTAC  
 CCACTTTTGGAGAAGCTTGAATCACCTTCACTACACTTGGATGTTTCGTCCTCTCTTCC  
 GGATTTGGAAGGTGGTCTCTTCCATATTCCATCATGTATTTCTTCACTGCCACATGCTCC  
 TCGGGACTTTTCTCCTCGCATTGGTCTTTGGATTGGGACACAACGGTATGTTCAGTGTACGAT  
 GCCACCACCCGACCTGACTTCTGGCAACTCCAAGTCACCACTACACGTAACATCATTGGT  
 GGACACGGCATTCCTCAATTCTTGTGGATTGGTCTTGCCTGGATTGCAATACCAAGTG  
 GATCACCACTCTTCCCATGATGCCTAGAAACAATATCGCGAAGTGCCACAAGCTTGTG  
 GAGTCATTCTGTAAGGAGTGGGGTGTGAAGTACCATGAGGCTGATATGTGGGATGGTACC  
 GTGGAAGTGTTGCAACATCTCTCAAGGTGTCGGATGATTTCTTGTGGAGATGGTGAAG  
 GATTTCCCTGCCATGTAA

Figure 8c

MAGKGGDAAA ATKRSALKL AEKPQKYTWQ EVKKHITPDD AWVVHQNKVY DVSNWYDHPG  
 GAVVFTHAGD DMTDIFAAFH AQGSQAMMKK FYIGDLIPES VEKQDQRQLD FEKGYRDLRA  
 KLVMGMFKS SKMYAYKCS FNMCMWLAV AMVYSDSLA MHIGSALLLG LFWQCGWLA  
 HDLHHQVFK QKRYGDLVGI FWGDLMOGFS MQWWKNKHNG HHAVPNLHNS SLDSQDGDPD  
 IDTMPLLAWS LKQAQSFREI NKGKDSTFVK YAIKFQAFY FPILLARIS WLNESFKTAF  
 GLGAASENAK LELEKRGLOQ PLEKLGITL HYTWMEVLSS GFGRWSLPYS IMYFFTATCS  
 SGLFLALVFG LGHNGMSVYD ATTRPDFWQL QVTTTRNIIG GHGIPQFFVD WFCGGLQYQV  
 DHHLFPMPR NNIKCHKLV ESFCKEWGVK YHEADMWDGT VEVLQHLSKV SDDFLVEMVK  
 DFPAM



Figure 9a

TATGTCCACCCCCCTGGTTTGTCCACCTCTGTCTTCGATCTTGGGACC  
CGGGTCTCGAGTTTGCAGACCTCTCAAGCGGGCCATAGTAGACGACTT  
GATCTGTTTGCTGATACCTGACGTGCACCGATTTTTTCGGGGCTAACGCCA  
CTTTTCGTAACTCCACAGGTACGACTGACTTGTGCCCCGTAGATATCTCT  
GATACCTCTATGCGCAAAGCCGATCAAATCGAAATGATTGTACTGTAGCAA  
GGATAAGCAGATGGATAGGCGGGGGATCTTCATGTCGACAAGAGGAAGAG  
AGAGAGTATGTCGTCGGCGAGGGTGGATAGGTTGAGAGAGAGGGGATGAC  
AGATTGTACATTATCTTCCCTCCAAGACTTTACCAAGGCACGTCACTCTG  
ATTAGAATCTTACATACACGTGGAGTAATAGTGGACAATAAATGACAAGT  
GAAGCACCCCAGTGGACCATTTTCGTCGCCACGTGGTTCGTCCTGTGGGT  
TGAGTGAACCGACGACGACGAACACAACCGCTGAATCTCCTTCGGCAACA  
ACAATACACCAATATGTGCAACGGCAACCTCCCAGCATCCACCGCACAGC  
TCAAGTCCACCTCGAAGCCCCAGCAGCAACATGAGCATCGCACCATCTCC  
AAGTCCGAGCTCGCCCAACACAACACGCCCCAAATCAGCATGGTGTGCCGT  
CCACTCCACTCCCGCCACCGACCCATCCCACTCCAACAACAAACACACG  
CACACCTAGTCTTCGACATTACCGACTTTGCGTCCCGCCATCCAGGGGGA  
GACCTCATCTCCTCGCTTCCGGCAAAGACGCCTCGGTGCTGTTTGAAAC  
ATACCATCCACGTGGAGTTCGGACGTCTCTCATTCAAAGCTGCAGATTG  
GAGTGATGGAGGAGGAGGCGTTTCGGGATTGTTTTACAGTTGGACTGAT  
TCTGACTTTTATACTGTGTTGAAGAGGAGGGTTGTGGAGCGGTGGAGGA  
GAGGGGTTGGCGAGGAGGGGATCGAAAGAGATTGGATCAAGGCTTTGT  
TCTTGTTGGTTGGATTTTGGTACTGTTTGTACAAGATGTATACTACGTCG  
GATATTGATCAGTACGGTATTGCCATTGCCTATTCTATTGGAATGGGAAC  
CTTTGCGGCATTTCATCGGCACGTGTATTCAACACGATGGAAATCACGGTG  
CATTGCTCAGAACAAGTTACTCAACAAGTTGGCTGGGTGGACGTGGAT  
ATGATTGGTGCGAGTGCCTTACGTGGGAGCTTCAGCACATGCTGGGGCA  
TCATCCATATACGAATGTGTTGGATGGGGTGGAGGAGGAGGAAGGAGA  
GGGGGGAGGATGTTGCTTTGGAAGAAAAGGATCAGGTGAGACGAGATGAC  
AGAGAGAGAGAGAGTCTATTTCGTGTGAAGTCGTAGATGCATGTGTGCGAT  
TGAGCGACACAACCTCTAACGCATTGCATTCCACTTTCAACTCGCCGACAG  
GAATCAGATCCAGACGTATTCTCCTCCTTCCCTCTCATGAGAATGCATCC  
CCTCCATACAACCTCATGGTATCATAAATACCAACACCTCTACGCTCCAC  
CCCTCTTTGCATTGATGACACTTGCCAAAGTATTCCAACAGGATTTTGAA  
GTTGCCACATCCCGACGATTATATCATATTGATGCCAATGTACGTTATGG  
TTCGGTATGGAAATGTCATGAGGTTTTTGGGCTATGAAGGTCATTACGATGG  
GATATATGATGGGATTACCAATCTACTTTTCATGGAGTACTGAGGGGAGTT  
GGATTGTTTGTATTGGGCATTGGCGTGTGGAGAGTTGTTGGCGACGAT  
GTTTATTGTGAATCACGTCATTGAGGGTGTGAGTTATGGAACGAAGGATT  
TGTTTGGTGGTGCGAGTCATGTAGATGAGAAGAAGATTGTCAAGCCAACG  
ACTGTATTGGGAGATACCCAATGGAAGAAGACTCGCGAGGAGGCATTGAA  
AAGCAACAGCAATAACAACAAGAAGAAGGGAGAGAAGAAGTCCGGTACCAT  
CCGTTCCATTCAACGACTGGGCAGCAGTCCAATGCCAGACCTCCGTGAAT  
TGGTCTCCAGGCTCATGGTTCGGAATCACTTTTCTGGGGGACTCTCTCA  
TCAGATTGAGCATCACTTGTTCCTCCAGCATTTGTGCATACAACTACTGTC  
ATATCCAGGATGTTGTGGAGAGTACGTGTGCTGAGTACGGAGTTCCGTAT  
CAGAGTGAGAGTAATTTGTTTGTGCTTATGGAAAGATGATTAGTCATTT  
GAAGTTTTTGGGTAAAGCCAAGTGTGAGTAGGTGTTAGGTATTGAGAGGT  
GTCGAGTTGTCTCACTTTTAAAAATAAGCGCTGAAAGTGATTTGAAAA  
ACAAGGTTTGTCAATACCAGTCTCTTGTATTGATTGCTGCGTCGACACAT  
CTCCGTGAGGAGTTTGACCTCACTCATTCTAACTTGGAATGTCTCTTTTG  
CGCTGGTGAGCTTGGACGAATACACTCCGNCAGAAGAGACTGCATTGGTA  
ATGCAGAGGAAAGAGGATATACTGTATGAGTCCGAAGAATCGATGACGCG  
CGGTGAGGTGGTGTACATCACTTGTGAGGACCAACGTGGAACCGCATGTC  
TGAAGAGGTCCATACCTAAACATTTGAGCGGTCTTGGGAGCAAACTTTAG  
CAGAGATTGAATGCTCCATTCCGTATTTGTTCTTCTGTGCCANTTTGATA  
AGGAACAGCAACCAACACACCGGGG

Figure 9b

MCNGNLPAST AQLKSTSKPQ QQHEHRTISK SELAQHNTPK SAWCAVHSTP ATDPSHSNNK  
QHAHLVLDIT DFASRHPGGD LILLASGKDA SVLFETYHPR GVPTSLIQKL QIGVMEEEF  
RDSFYSWTDS DFYTVLKRRV VERLEERGLA RRGSKIEWIK ALFLLVGFY CLYKMYTTSD  
IDQYGIAIAY SIGMGTFAAF IGTCIQHDGN HGAFQNKLL NKLAWTLDM IGASFTWEL  
QHMLGHHPYT NVLDGVEEER KERGEDVALE EKDQVRRDDR ERESLFV QESD PDVFSSFPLM  
RMHPLHTTSWYHKYQHLYAP PLFALMTLAK VFQQDFEVAT SGRLYHIDAN VRYGSVWNVN  
RWFAMKVITMGYMMGLPIYF HGVLRGVGLF VIGHLACGEL LATMFIVNHV IEGVSYGTD  
LVGGASHVDEKKIVKPTTVL GDTPMEKTRE EALKSNSNNN KKKGEKNSVP SVPFNDWAAV  
QCQTSVNWSPGSWFWNHFSG GLSHQIEHHL FPSICHTNYC HIQDVVESTC AEYGVYPYQSE  
SNLFVAYGKMISHLKFLGKA KCE

**Figure 10a**

ATGGACTTTCTCTCCGGCGATCCT  
TTCCGGACACTCGTCTTGCAGCACTTGTTGTCATCGGATTTGCTGCGGC  
GTGGCAATGCTTCTACCCGCCGAGCATCGTCGGCAAGCCTCGTACATTAA  
GCAATGGTAAACTCAATACCAGAATCCATGGCAAATTGTACGACCTCTCA  
TCGTTTTCAGCATCCAGGAGGCCCGTGGCTCTTTCTCTTGTTCAAGGTCTG  
CGACGGAACAGCTCTATTTGAGTCACACCATCCCTTCATACCTCGAAAGA  
ATCTACTTCAGATCCTCTCCAAGTACGAGGTTCCGTCGACTGAAGACTCT  
GTTTCCTTCATCGCCACCCTAGACGAACTCAATGGTGAATCTCCGTACGA  
TTGGAAGGACATTGAAAATGATGATTTTCGTATCTGACCTACGAGCTCTCG  
TAATTGAGCACTTTTCTCCTCTCGCCAAGGAAAGGGGAGTTTCACTCGTT  
GAGTCGTCTGAAGGCAACACCTCAGCGGTGGATGGTGGTTCTACTGCTCCT  
TGCCTCGTTCTTCTCAGCATCCCATATATTTGAGTGGTTCTGTTGACTT  
TCGTTGTCGTCACCTCCCATCCTCGCTTGGCTGGCGGTTGTCAATTACTGG  
CACGATGCTACTCACTTTGCATTGAGCAGCAACTGGATTTTGAATGCTGC  
GCTCCCATATCTCCTCCCTCTCCTATCGAGTCCGTCAATGTGGTATCATC  
ATCACGTCAATTGGACATCACGCATACACCAACATTTCCAAAAGAGATCCA  
GATCTTGCTCACGCTCCACAACCTCATGAGAGAACACAAGAGTATCAAATG  
GAGACCATCTCACTTAAATCAAACACAGCTTCCGCGGATTCTCTTCATCT  
GGTCGATTGCAGTCGGTATTGGGTTGAACCTTACTGAACGACGTGAGAGCA  
CTAACCAAGCTTTCATACAACAACGTTGTTCCGGTGGAGAAGATGTCATC  
GTCGCGAACATTACTCCATTTCCCTTGACGTATGTTGCACATCTTTGTGA  
CTACACTTTGGCCCTTTTGGCGTTTCCGGTGTGGAAGGCCATCGTTTGG  
GCGACTGTACCGAATGCCATACTGAGTTTGTGCTTCATGCTGAATACGCA  
AATCAATCACCTCATCAACACGTGTGCACATGCTTCCGATAACAACCTTTT  
ACAAGCATCAAGTTGTAAGTCTCAGAACTTTGGCCGATCAAGTGCCTTT  
TGCTTCATCTTCTCGGGAGGTCTCAACTACCAAATTGAACATCATTGT  
GCCGACGGTGAACCATTGCCATTTGCCAGCTTTGGCCCCGGGTGTAGAGC  
GTTTGTGTGAAGAAACACGGGGTGACATACAACCTCTGTTGAAGGATACAGA  
GAGGCCATCATTCACACTTTGCACATACCAAAGATATGTGACGAAGCC  
TACTGATTGA

**Figure 11a**

ANNTCTCCACCCNGCCAGCTCTTTTCAGGTCGACCGGAGATACACACTTC  
TTCCACCAACTTCGTCCTCCATACGATCGGAAGAAAAGAGGAGATTATC  
TTGACTTCTTGACGGAGGAGTGGGATGAAAAGAACTTGAGTGGGTAAGGG  
CTGATTTTCTTGAGAAGGAGAAGTCAGCTGGAACGAAGTTCATGGAGTTT  
TGTGGCAACCCATTGAGACGTTGCTTGGTGGAGGAAGGTAGCGAGGTTG  
AGCATGCAAACAGAATGGTATAAATCACTAAGATGTCAC'TCCCAATGACA  
AGTAGGAATAGCAATGACGAGATGGTGTACAGATGTTAGAGATGGAGAGA  
TTAAGCGAATGGCTGGATGATTAGGATATGCAATGCAAACTGTATAGAT  
TCTTGCTAATAGACTTTGTAGACAACGTCCTCTGTCAGAAAAGGACAATA  
CTAATTAATATAAAAACCGACTCGGAGAGAACATGACATGGCAAGTTGTCA  
CTATGGAATTCACTACGTCGCTTGACAGGAAGCTCACGTGGCCTCGGCGA  
AGAAGACAAACAAAACCGAGCCCTCACATTTCACTCTGTACAGTTCATAG  
TCAACACCACCAATACGATGCCCCCAACGCCGATATCTCCCGCATCCGC  
AACCGCATCCCCACCAAAACAGGTACCGTTGCCTCTGCCGACAACAACGA  
CCCCGCCACCCAATCCGTCCGAACCTCAAATCTCTCAAGGGCAACGAGG  
TCGTCATCAACGGCACAATTTATGACATTGCTGACTTTGTCCATCCTGGA  
GGAGAGGTTGTCAAGTTCTTTGGTGGGAATGATGTTACTATTTCAGTATAA  
TATGATTTCATCCGTATCATACGGGGAAAACATCTGGAGAAGATGAAGGCTG  
TTGGAAAGGTTGTAGATTGGCAGTCGGAGTGAGTTTGAATGGTGCACACG  
TTGACGTTGTTGTTGTGTCAATTCGTTCTTTGCATTTGATATCCAAC'TGA  
CCTCTACACACCTCTTCGTTACCATAGCTACAAGTTCGACACCCCTTTG  
AACGAGAGATCAAATCAGAAGTGTTCAAGATCGTACGTCGCGGGCGTGAG  
TTCGGCACAACAGGCTACTTCCTCCGTGCCCTTTTCTACATCGCTCTCTT  
CTTCACCATGCAATACACTTTCCGCCACATGCACCACCTTCACCACCTACG  
ATCACTGGTATCAGAGTGGTGTATTCATCGCAATTGTGTTTGGTATTTC  
CAGGCATTTCATTGGGTTGAATGTCCAGCACGATGCCAATCACGGAGCTGC  
CAGTAAGCGTCCCTGGGTGAATGACTTGTTGGGATT'TGGAACGGATT'TGA  
TTGGATCTAACAATGGAATTGGATGGCACAGCATTGGACTCATCACGCT  
TACACTAACCATAGTGAGAAGGATCCCGATAGCTTCAGCTCGGAACCTAT  
GTTTGCATTCAATGACTATCCCATTGGACACCCGAAGAGAAAGTGGTGGC  
ATAGGTTCCAGGGAGGGTACTTCCTCTTCATGCTTGGACTTTACTGGCTC  
TCGACTGTATTCAATCCGCAATTCATTGATCTTCGTCAACGTGGGGCTCA  
GTACGTCGGAATTCAAATGGAGAATGATTTTCATTGTCAAGAGGAGGAAGT  
ACGCCGTTGCATTGAGGATGATGTACATTTACTTGAACATTGTTCAGCCCC  
TTCATGAACAATGGTTTGGAGCTGGTCTACCTTTTGAATCATCATGTTGAT  
GGGAATCAGCGAGAGTCTCACTCTCAGTGTGCTCTTCTCGTTGTCTCACA  
ACTTCATCAATTCGGATCGTGATCCTACGGCTGACTTCAAAAAGACCGGA  
GAACAAGTGTGCTGGTTCAAGTTCGAGGTGGAGACTTCGTCTACCTATGG  
GGGTTTTTATTTCCGGATGTCTTACGGGAGGACTCAACTTTTCAGGTGGAAC  
ATCATCTCTTTCCCCGTATGAGCAGTGCTTGGTATCCTTACATTGCACCT  
ACGGTTTCGTGAGGTTTGAAGAAGCACGGGGTGAAC'TACGCTTATTATCC  
TTGGATTGGGCAGAATTTGGTATCAACATTCAAATACATGCATCGCGCTG  
GTAGTGGAGCCAAC'TGGGAGCTCAAGCCGTTGTCTGGAAGTGCTAAAGT  
TTAGTTGTACTGATTGTGCGAGGTGCTGCTGGTGGCTTCAACTAATGTTAG  
GAGTGCATGTTAAAAGCCTTCTTTGTGTTTTGTGTCTTCGTATTCAGTA  
TATCAGTTTTCGATATGTTGCATTGTAACCTCCTCCACTTGCAC'TCAAAAC  
AAATCTAGCATAACATTTCTCATCCCGAGTCATGTATGAACGACTCAT  
ACGCAATGCCTCTCTCATAACCCCGAAACAAC'TCGACCAGCTTCATACTC  
TAATCGTCCATCTTTGGCAGCTGCAATCCAGCCCTAGCAGCAGCTCTCTT  
ACTCAACTCCATCGGACTCAACTTCGTATCTGCCCCCGCATCAATCTCAT  
GCAACCGTCCCTCTCTACCAAATCTGCCCTTTAACATCCAGTAATCATAG  
GCGATTCCACGTAGTAGTTCGTTGCTCGCTCGGGAGACACTGATGCCGATGC  
TTTGTATTGTGATATACTGTGCTGGTGCAGCATCGATGCTCCGNTGTGN  
GTTGNGACTGTGCATTGGATGCTGCTGTGAAACAGTCGGTGCAGTGTAGC  
GGAGGTGCTGTTTCTGAACTGAGGAGATGCCCGCAAAC'TGATAGGGGGTG  
GTGCAGCGCTATAAATTTTGCAGCGAGTCCATTGTCTTGTCTCTCCCA  
TATGTCCGGGCGAGGGCGAAGCGCGAAGGAGAAGCCACAAGGCCAATACAA  
CAGAAAGTTTAAATGAAGGACGTAATTCCTACACAGTCCAGTGGCGAAGT  
TACAAC

Figure 11b

ATGGCTCCCCCAACGCCGATATCTCCCGCATCCGCAACCGCATCCCCACCAAAACAGGT  
 ACCGTTGCCTCTGCCGACAACAACGACCCCGCCACCCAATCCGTCCGAACCCCTCAAATCT  
 CTAAGGGCAACGAGGTTCGTATCAACGGCACAATTTATGACATTGCTGACTTTGTCCAT  
 CCTGGAGGAGAGGTTGTCAAGTTCTTTGGTGGGAATGATGTTACTATTACAGTATAATATG  
 ATTCATCCGTATCATACGGGGAAACATCTGGAGAAGATGAAGGCTGTTGGAAAAGGTTGTA  
 GATTGGCAGTCGGACTACAAGTTCGACACCCCTTTGAACGAGAGATCAAATCAGAAGTG  
 TTCAAGATCGTACGTGCGGGCGTGAGTTCGGCACAACAGGCTACTTCCTCCGTGCCTTT  
 TTCTACATCGCTCTCTTCTTCACCATGCAATACACTTTTCGCCACATGCACCACCTTCACC  
 ACCTACGATCACTGGTATCAGAGTGGTGTATTTCATCGCAATTGTGTTTGGTATTTACAG  
 GCATTCAATTGGGTTGAATGTCCAGCACGATGCCAATCACGGAGCTGCCAGTAAGCGTCCC  
 TGGGTGAATGACTTGTGTTGGGATTTGGAACGGATTTGATTGGATCTAACAAATGGAATTGG  
 ATGGCACAGCATTGGACTCATCACGCTTACACTAACCATAGTGAGAAGGATCCCAGTAGC  
 TTCAGCTCGGAACCTATGTTTGCATTCAATGACTATCCCATTGGACACCCGAAGAGAAAG  
 TGGTGGCATAGGTTCCAGGGAGGGTACTTCCTCTTCATGCTTGGACTTTACTGGCTCCCG  
 AACTGTATTCAATCCGCAATTCATTGATCTTCGTCAACGTGGGGCTCAGTACGTCGGAATT  
 CAAATGGAGAATGATTTCAATTGTCAAGAGGAGGAAGTACGCCGTTGCATTGAGGATGATG  
 TACATTTACTTTGAACATTGTTCAGCCCCTTCATGAACAATGGTTTGAGCTGGTCTACCTTT  
 GGAATCATCATGTTGATGGGAATCAGCGAGAGTCTCACTCTCAGTGTGCTCTTCTCGTTG  
 TCTCACAACCTTCATCAATTCGGATCGTGATCCTACGGCTGACTTCAAAAAGACCGGAGAA  
 CAAGTGTGCTGGTTCAAGTCGCAGGTGGAGACTTCGTCTACCTATGGGGGTTTATTTCC  
 GGATGTCTTACGGGAGGACTCAACTTTTCAGGTGGAACATCATCTCTTCCCCGTATGAGC  
 AGTGCTTGGTATCCTTACATTGCACCTACGGTTCGTGAGGTTTGCAAGAAGCACGGGATG  
 AGCTACGCTTATTATCCTTGGATTGGGCAGAATTTGGTATCAACATTCAAATACATGCAT  
 CGCGCTGGTAGTGGAGCCAACTGGGAGCTCAAGCCGTTGTCTGGAAGTGCCTAA

Figure 11c

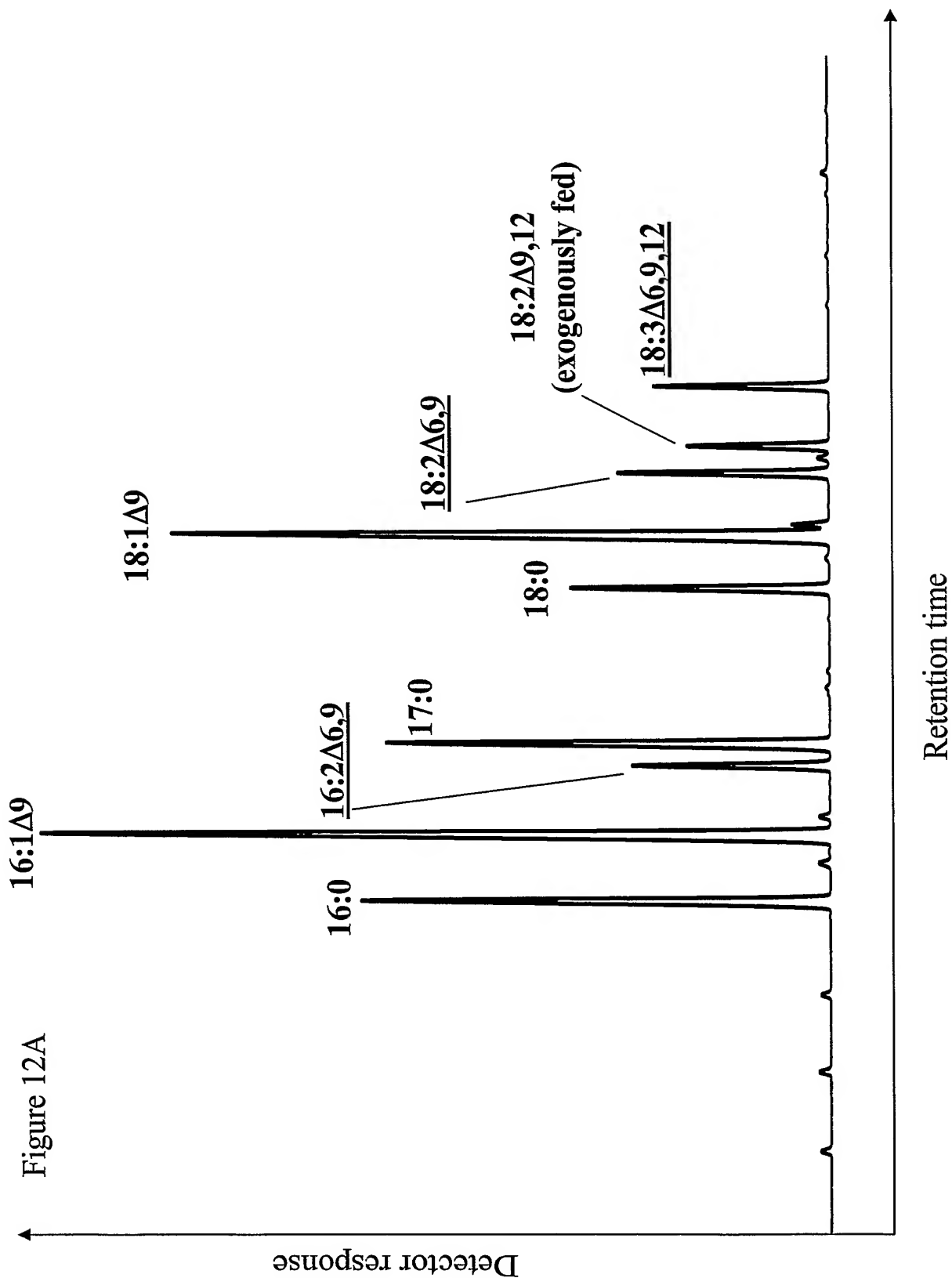
MAPPNADISR	IRNRIPTKTG	TVASADNNDP	ATQSVRTLKS	LKGNEVVING	TIYDIADFH
PGGEVVKFFG	GNDVTIQYNM	IHPYHTGKHL	EKMKA VGKVV	DWQSDYKFDT	PFEREIKSEV
FKIVRRGREF	GTTGYFLRAF	FYIALFFTMQ	YTFATCTTFT	TYDHWYQSGV	FIAIVFGISQ
AFIGLNVQHD	ANHGAASKRP	WVNDLLGFGT	DLIGSNKWNW	MAQHWTHHAY	TNHSEKDPDS
FSSEPMFAFN	DYPIGHPKRK	WWHRFQGGYF	LFMLGLYWLP	TVFNPQFIDL	RQRGAQYVGI
QMENDFIVKR	RKYAVALRMM	YIYLNIVSPF	MNGLSWSTF	GIIMLMGISE	SLTSLVLFSL
SHNFINS DRD	PTADFKKTGE	QVCWFKSQVE	TSSTYGGFIS	GCLTGGLNFQ	VEHHLFPRMS
SAWYPYIAPT	VREVCKKHGM	SYAYYPWIGQ	NLVSTFKYMH	RAGSGANWEL	KPLSGSA

**Figure 11d**

ATGGCTCCCCCAACGCCGATATCTCCCGCATCCGCAACCGCATCCCCACCAAAACAGGT  
 ACCTCTGCCGACAACAACGACCCCGCCACCCAATCCGTCCGAACCCCTCAAATCTCTCAAG  
 GGCAACGAGGTTCGTATCAACGGCACAATTTATGACATTGCTGACTTTGTCCATCCTGGA  
 GGAGAGGTTGTCAAGTTCTTTGGTGGGAATGATGTTACTATTTCAGTATAATATGATTCAT  
 CCGTATCATACGGGGAAACATCTGGAGAAGATGAAGGCTGTTGGAAAGGTTGTAGATTGG  
 CAGTCGGACTACAAGTTTCGACACCCCTTTGAACGAGAGATCAAATCAGAAGTGTTCAAG  
 ATCGTACGTTCGGGGCGTGAGTTCGGCACAACAGGCTACTTCCTCCGTGCCTTTTTCTAC  
 ATCGCTCTCTTTCCACCATGCAATACACTTTTCGCCACATGCACCACCTTCACCACCTAC  
 GATCACTGGTATCAGAGTGGTGTATTCATCGCAATTGTGTTTGGTATTTACAGGCATTC  
 ATTGGGTTGAATGTCCAGCACGATGCCAATCACGGAGCTGCCAGTAAGCGTCCCTGGGTG  
 AATGACTTGTGGGATTTGGAACGGATTTGATTGGATCTAACAAATGGAATTGGATGGCA  
 CAGCATTGGACTCATCACGCTTACACTAACCATAGTGAGAAGGATCCCGATAGCTTCAG  
 CTCGGAACCTATGTTTGCATTCAATGACTATCCCATTTGGACACCCGAAGAGAAAAGTGGT  
 GGCATAGGTTCCAGGGAGGGTACTTCCTCTTCATGCTTGGACTTTACTGGCTCTCGACTG  
 TATTCAATCCGCAATTCATTGATCTTCGTCAACGTGGGGCTCAGTACGTCCGAATTCAAA  
 TGGAGAATGATTTTATTGTCAAGAGGAGGAAGTACGCCGTTGCATTGAGGATGATGTACA  
 TTTACTTGAACATTGTGAGCCCTTCATGAACAATGGTTTGGAGCTGGTCTACCTTTGGAA  
 TCATCATGTTGATGGGAATCAGCGAGAGTCTCACTCTCAGTGTGCTCTTCTCGTTGTCTC  
 ACAACCTCATCAATTCGGATCGTGATCCTACGGCTGACTTCAAAAAGACCGGAGAACAAG  
 TGTGCTGGTTCAAGTCGAGGTGGAGACTTCGTCTACCTATGGGGGTTTTATTTCCGGAT  
 GTCTTACGGGAGGACTCAACTTTCAGGTGGAACATCATCTCTTTCCCGTATGAGCAGTG  
 CTTGGTATCCTTACATTGCACCTACGTTTCGTGAGGTTTGCAAGAAGCACGGGGTGAACT  
 ACGCTTATTATCCTTGGATTGGGCAGAAATTTGGTATCAACATTCAAATACATGCATCGCG  
 CTGGTAGTGGAGCCAACCTGGGAGCTCAAGCCGTTGTCTGGAAGTGCCTAA

**Figure 11e**

MAPPNADISR	IRNRIPTKTG	TSADNNDPAT	QSVRTLKSLK	GNEVVINGTI	YDIADFVHPG
GEVVKFFGGN	DVTIQYNMIH	PYHTGKHLEK	MKAVGKVVDW	QSDYKFDTPF	EREIKSEVFK
IVRRGREFGT	TGYFLRAFFY	IALFFTMQYT	FATCTTFTTY	DHWYQSGVFI	AIVFGISQAF
IGLNVQHDAN	HGAASKRPWV	NDLLGFGTDL	IGSNKWNWMA	QHWTHHAYTN	HSEKDPDSFS
SEPMFAFN DY	PIGHPKRKWW	HRFQGGYFLF	MLGLYWLS TV	FNPQFIDLRQ	RGAQYVGIQM
ENDFIVKRRK	YAVALRMYI	YLNIVSPFMN	NGLSWSTFGI	IMLMGISESL	TLSVLFSLSH
NLINS DRDPT	ADFKKTGEQV	CWFKSQVETS	STYGGFISGC	LTGGLNFQVE	HHLFPRMSSA
WYPYIAPT VR	EVCKKHGVNY	AYPWIGQNL	VSTFKYMHRA	GSANWELKP	LSGSA



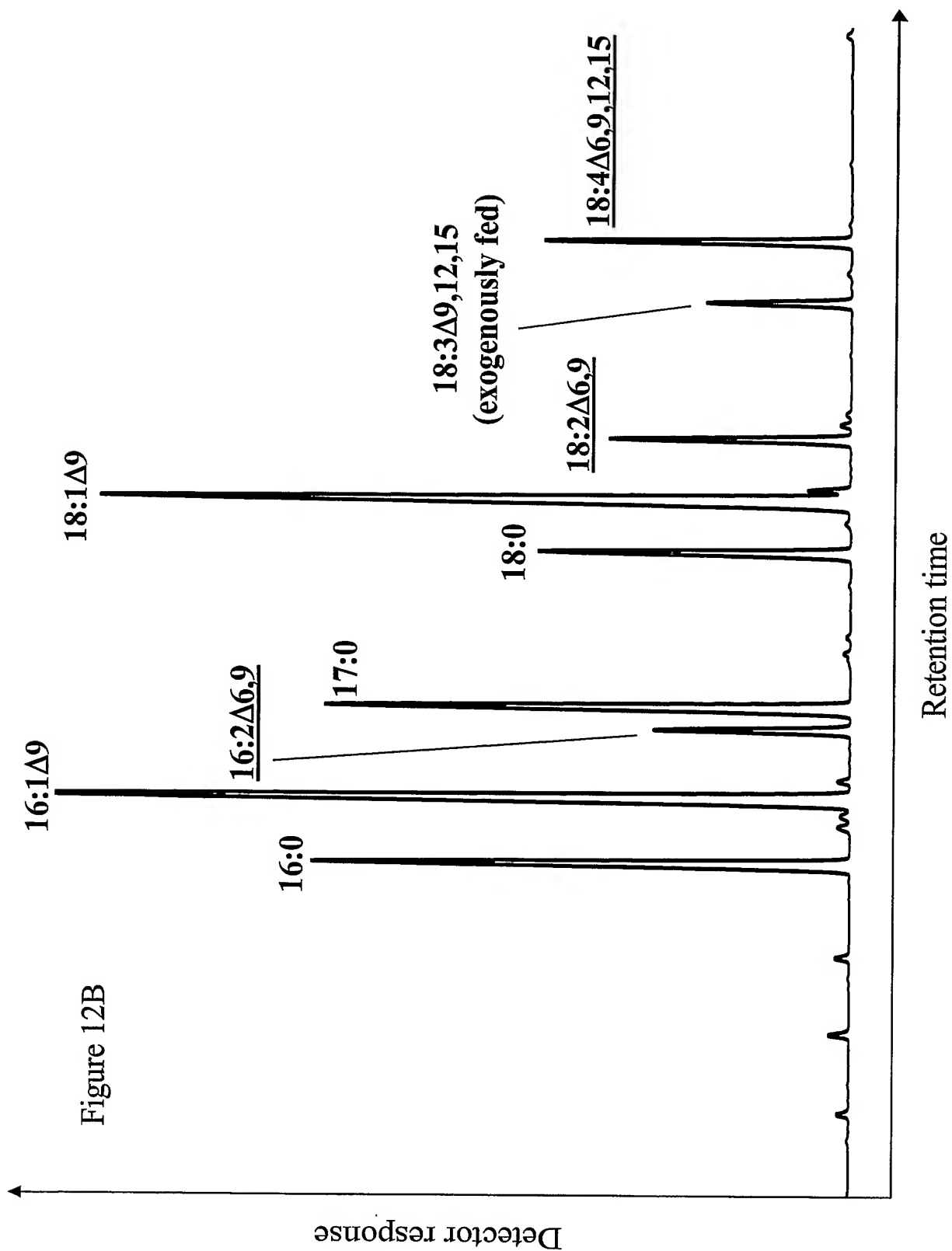
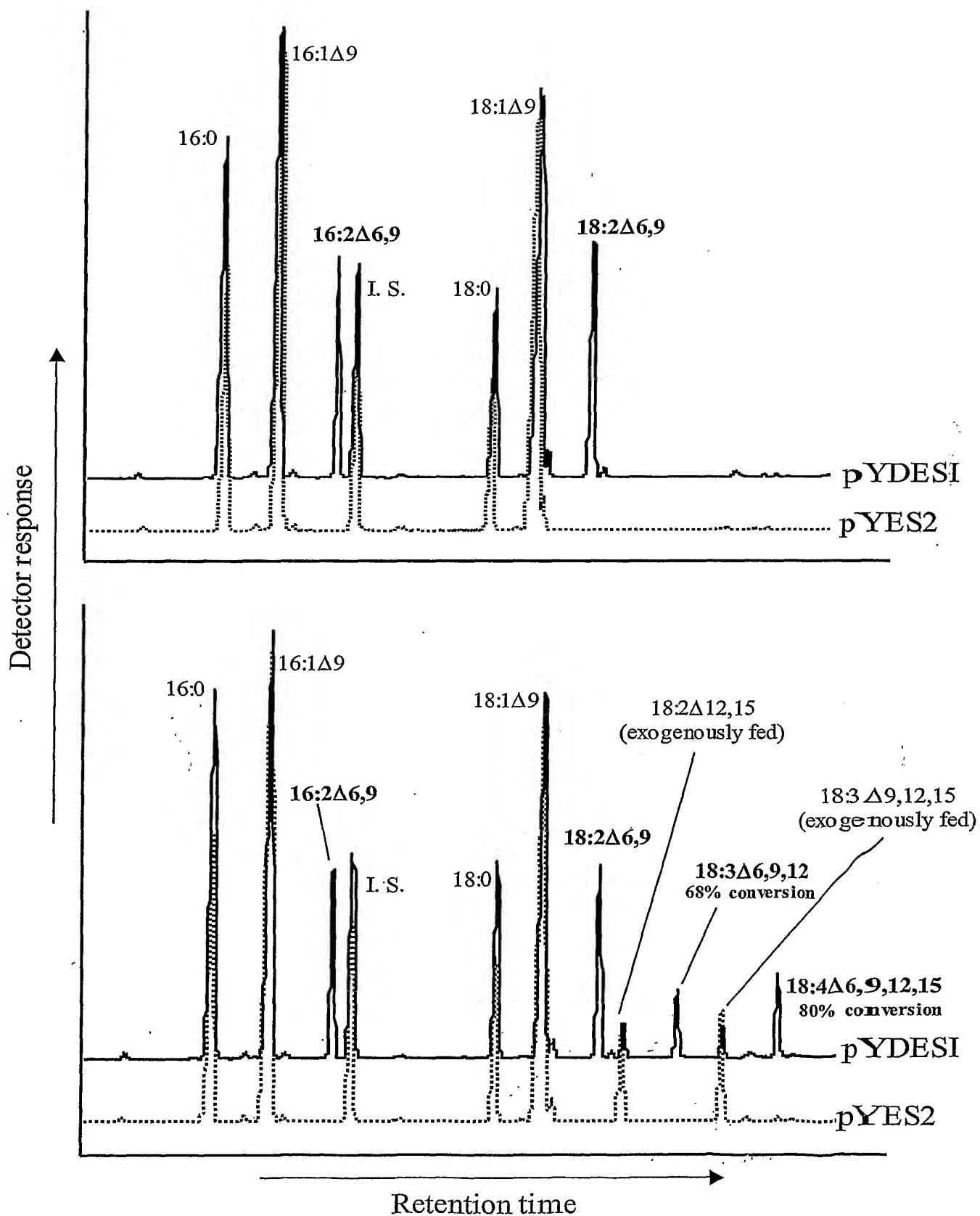




Figure 12C



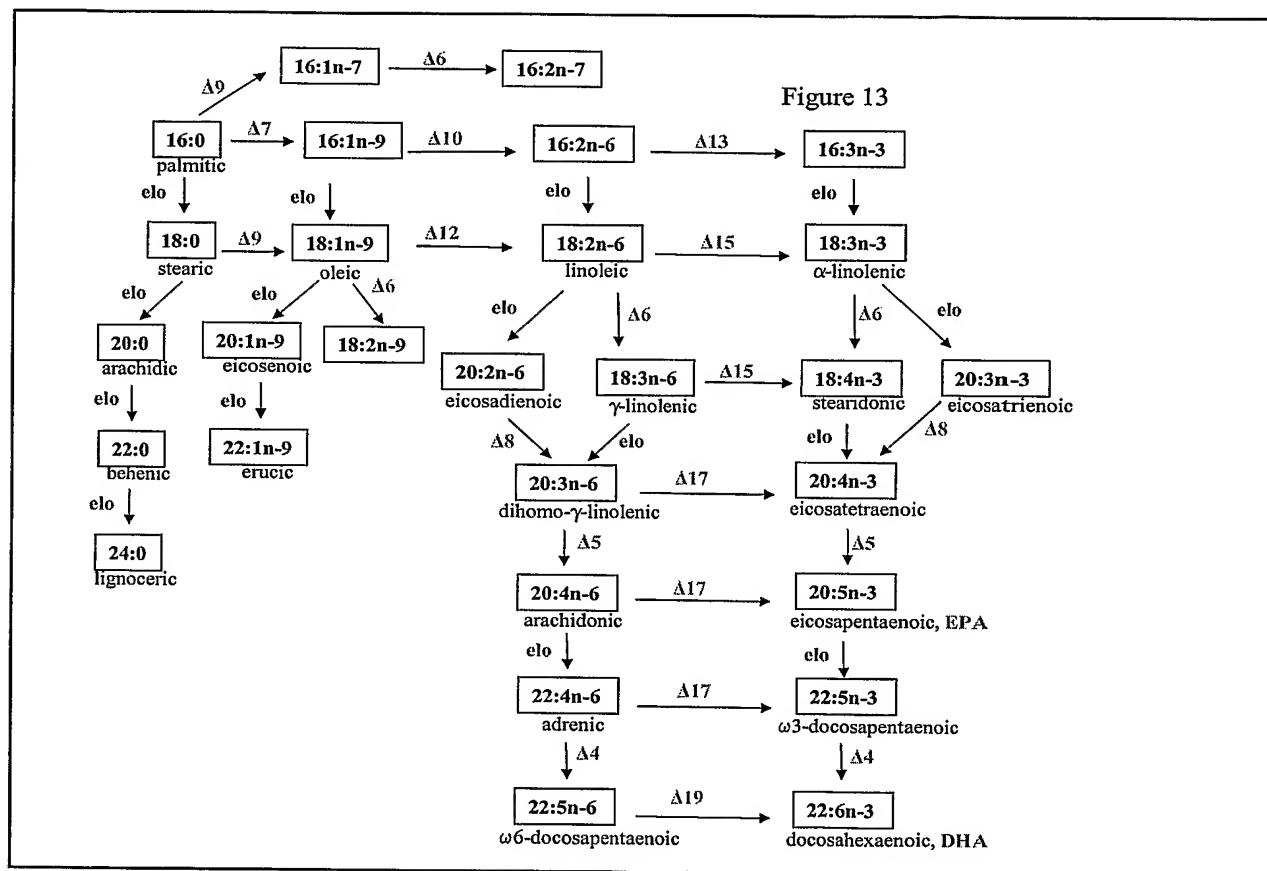


Figure 14

